

What is claimed is:

1. A method of producing a golf ball having a core, an inner cover layer disposed about the core, and an outer cover layer disposed on the inner
5 cover layer, the method comprising the steps of:
 selecting a first material for forming a golf ball core;
 forming the golf ball core from the first material;
 selecting a second material for use in forming an inner cover layer, the
second material being thermoplastic and exhibiting a Shore D hardness of
10 at least 60;
 forming an inner cover layer from the second material about the golf
ball core;
 selecting a third material for use in forming an outer cover layer, the
third material exhibiting a Shore D hardness of no more than 53;
15 forming an outer cover layer from the third material about the inner
cover layer;
 wherein the selection of the first material, second material, and third
material and the forming of the core, inner cover layer and outer cover
layer are performed such that the golf ball exhibits a PGA compression of
20 100 or less and a coefficient of restitution of at least 0.750.
2. A method according to claim 1, wherein the third material is selected and
formed about the inner cover layer such that it exhibits a Shore D
hardness of no more than 50.
3. A method according to claim 1, wherein the selection of the first material,
second material, and third material and the forming of the core, inner cover
layer and outer cover layer are performed such that the golf ball exhibits a
PGA compression of 90 or less.
4. A method according to claim 1, wherein material comprising ionomer is
selected for at least one of the second material and the third material.
5. A method according to claim 4, wherein the second material has a flex
modulus of greater than 30,000 psi.
6. A method of producing a golf ball having a core, an inner cover layer
disposed about the core and an outer cover layer disposed on the inner
cover layer, comprising the steps of:

- selecting a first material for forming a golf ball core;
- 5 forming the golf ball core from the first material;
- selecting a second material for use in forming an inner cover layer, the second material including at least 75 weight % of at least one material selected from the group consisting of polyphenylene ether/ionomer blends, ionomers, polyamides, polyurethanes, polyester elastomers, polyester
- 10 amides, metallocene catalyzed polyolefins, and blends thereof;
- forming an inner cover layer from the second material about the golf ball core;
- selecting a third material for use in forming an outer cover layer, the third material exhibiting a Shore D hardness of no more than 53;
- 15 forming an outer cover layer from the third material about the inner cover layer;
- wherein the selection of the first, second and third materials and the forming of the core, inner cover layer and outer cover layer are performed such that the golf ball exhibits a PGA compression of 100 or less and a
- 20 coefficient of restitution of at least 0.750.
7. A method according to claim 6, wherein the core is compression or injection molded from a slug or ribbon of uncured or lightly cured elastomer composition comprising a high cis content polybutadiene and a metal salt of an alpha, beta, ethylenically unsaturated carboxylic acid.
8. A method according to claim 6, wherein the golf ball is coated with a durable, abrasion-resistant, non-yellowing finish coat.
9. A method according to claim 6, wherein the core is wound, solid or liquid filled.
10. A method according to claim 6, wherein the inner cover layer is about 0.01 to about 0.10 inches in thickness and the outer cover layer is from about 0.01 to about 0.10 inches in thickness.
11. A method of producing a golf ball having a core, an inner cover layer disposed about the core and an outer cover layer disposed on the inner cover layer, comprising the steps of:
- selecting a first material for forming a golf ball core;
- 5 forming the golf ball core from the first material;

selecting a second material for use in forming an inner cover layer, the second material being thermoplastic and exhibiting a Shore D hardness of at least 60;

10 forming an inner cover layer from the second material about the golf ball core;

selecting a third material for use in forming an outer cover layer, the third material exhibiting a flex modulus of from about 1,000 to about 10,000 psi;

15 forming an outer cover layer from the third material about the inner cover layer;

wherein the selection of the first, second and third materials and the forming of the core, inner cover layer and outer cover layer are performed such that the golf ball exhibits a PGA compression of 100 or less and a coefficient of restitution of at least 0.750.

12. A method according to claim 11, wherein the second material exhibits a flex modulus of at least 30,000 psi.

13. A method according to claim 11, wherein the core is compression or injection molded from a slug or ribbon of uncured or lightly cured elastomer composition comprising a high cis content polybutadiene and a metal salt of an alpha, beta, ethylenically unsaturated carboxylic acid.

14. A method according to claim 13, wherein a free radical initiator is mixed with the core composition to promote cross-linking.

15. A method according to claim 11, wherein the golf ball is coated with a durable, abrasion-resistant, non-yellowing finish coat.

5 16. A method according to claim 11, wherein the inner cover layer is formed via injection molding at about 380°F to 450°F into two hemispherical shells which are then positioned around the core in a mold having the desired inner cover thickness and subjected to compression molding at 200°F to 330°F for about 2 to 10 minutes, followed by cooling to fuse the shells together to form a unitary intermediate ball.

17. A method according to claim 11, wherein the inner cover layer is injected directly around the core placed at the center of the intermediate ball mold for a period of time in a mold temperature of from about 50°F to 100°F.

18. A method according to claim 11, wherein the core is wound, solid or liquid filled.
19. A method according to claim 11, wherein the inner cover layer is about 0.01 to about 0.10 inches in thickness and the outer cover layer is from about 0.01 to about 0.10 inches in thickness.
20. A golf ball comprising:
- a core;
 - an inner cover layer which has a Shore D hardness of at least 60 as measured on the curved surface thereof and is formed from a composition which includes at least one material selected from the group consisting of polyphenylene ether/ionomer blends, ionomers, polyamides, polyurethanes, polyester elastomers, polyester amides, metallocene catalyzed polyolefins, and blends thereof, and
 - an outer cover layer formed over the inner cover layer, the outer cover layer having a Shore D hardness of no more than 55 as measured on the curved surface thereof, the golf ball having a spin factor of at least 5.
21. The golf ball according to claim 20, wherein the ball has a spin factor of at least 8.
22. A golf ball according to claim 20, wherein the outer cover layer has a thickness of from about 0.01 to about 0.10 inches.
23. A golf ball according to claim 20, wherein the inner cover layer has a thickness of from about 0.01 to about 0.10 inches.
24. A golf ball according to claim 20, wherein the inner cover layer is formed from a composition which includes at least one material selected from the group consisting of a high acid ionomer, a low acid ionomer, a blend of high acid and low acid ionomers, a non-ionic thermoplastic, and combinations thereof.
25. A golf ball according to claim 20, wherein the outer cover layer has a flex modulus of from about 1,000 to about 10,000 psi.
26. A golf ball according to claim 20, wherein the inner cover layer has a flex modulus of at least 30,000 psi.
27. A golf ball according to claim 20, wherein the golf ball has a PGA compression of 100 or less and a coefficient of restitution of at least 0.750.